GARDEN AND FOREST.

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City Engineers and Public Parks.

THE new Mayor of this city, acting under powers conferred on him by the recent legislation, has removed the entire park commission and appointed a new board. The old board have forfeited public confidence in many ways, but their most serious offense was that in the construction of a pleasure drive along the shores of the Harlem River they refused to consult with their landscape-architect, and directed a city engineer to prepare plans and specifications and carry on the work. The people of this city have come to understand that public grounds as surely demand artistic treatment as public buildings do; and that to entrust the planning of a public park to one who is not skilled in landscape design is as much an outrage against civilization as it would be to erect a municipal building without an architect. It is a pleasure to announce that the new board has taken the earliest opportunity to put the speedway under the supervision of Mr. Vaux, and to order the engineer in charge of the work to report to him. This elevates the skilled park-maker of the department to his proper rank at the head of these works as their designer, and places the engineer where he belongs, subordinate to him and in charge of matters of construction under his direction.

Now, we may conceive of an engineer who has a feeling for landscape, and who carries on his work with due regard to its effect upon the scenery, but his education would naturally give his mind another bias. When told to construct a road between two points, nothing in his professional training leads him to make any effort for harmonizing his work with the landscape. He often takes pride in making it obtrusively distinct from nature, since in his view, and this is in a manner a true view, it has a beauty of its own which should be displayed. It is his business to make a convenient road and build it as economically as possible. What he aims at is to facilitate traffic between two points, and he is not to be lured from his professional duty by any appeals of natural beauty. Naturally, a man whose entire training and practice has led him to ignore the element of natural beauty, would be the last one to select for laying walks and drives in a park, for here this beauty is of paramount importance. These roads and walks are not for traffic; they are not primarily for pleasure, driving or walking, but they are prepared, as the shelters and seats are, to enable the greatest number of people to enjoy the beauties of the scenery with the greatest comfort. A park road, therefore, which needlessly mars the landscape, defeats its fundamental purpose. Of course, we are now referring to park work in general, and not especially to the Harlem Speedway, in which the road is the essential element.

No doubt, the plans of the speedway will have to be revised. If proper professional advice had been taken before the work began, much of the picturesque slope above its line would have been purchased by the city, so that it could have been used to add to the dignity of this unique water-side parkway, which, with proper treatment, could be made one of the most beautiful of the city's possessions. Certainly, on the sidewalk along the river provision must be made for ample space and enough soil for a row of trees, without which the road will be altogether commonplace and incomplete. To change the plans will cost the city something, but self-satisfied ignorance, in responsible places, is always expensive to the people. It is to be hoped that the new Board will not shrink from the additional duty which the blunders of their predecessors have thrown upon them, but will attack the work with intelligence and resolution.

We may add here that a large proportion of the cities of this country have no professional landscape-designer, and public parks and grounds are all under the charge of a city engineer. Naturally, the result is painful to every one who is qualified to pass judgment on a landscape. Apart from the fact, as we have stated, that his training has all been directed to give him skill in another direction, there is another mistake which the city engineer almost invariably falls into when he becomes a maker of parks. This trouble, as tersely stated by Mr. John C. Olmsted, in an article lately published in the *Journal of the Association of Engineering Societies*, is, "that he is often disposed to solve the problem presented by each element of a park independently of every other." That is, he will lay out a new piece of road one year, he will build a conservatory or dig a pond the next, and he will carry on each fraction of the work in a way which seems most convenient and economical considered by itself without any comprehensive idea of the influence that these separate features will have upon each other, or upon the park as a whole. Such work must, of necessity, be unrelated and inconsistent. No city would think of erecting a municipal building without some architect to make a general plan, or without knowing what the various apartments are to be used for, or what sort of necessities are to be provided for, and yet it would be quite as sensible to start a city hall without any plan or to permit radical and inharmonious changes in it while the building is in course of construction as it is to fritter away money on park construction in a fragmentary and disconnected way instead of working steadily toward the ideal of a competent designer. Wherever parks must be entrusted to a city engineer, the man selected should be one of broad training and liberal education, as well as technical knowledge within the narrow limits of his profession. He ought to understand not only that every park should have a plan with consistent features and unity of motive, but he ought to know enough to treat different ones so that each shall supplement the deficiencies of the rest, so that all may stand properly related in a comprehensive and harmonious park system. Men who are endowed with the creative faculty united with a genuine feeling for the æsthetic and poetic value of scenery are rare, indeed. When they appear, their best efforts are too often unappreciated and neglected. In more than one city in the United States and the Dominion of Canada designs of parks, prepared by real masters, have been nominally accepted, and then so warped

in construction from their original meaning and purpose that they are not even good parodies of the artist's ideal.

Since the foregoing was in type the engineer in charge of the Harlem Speedway has expressed resentment at being considered subordinate to the landscape-architect, and has sent a letter of resignation to the Park Board. This resignation was not accepted at once, as would have been expected, and the Board passed a resolution with the apparent purpose of limiting the power of the landscape-architect. This resolution places him in charge of the "landscape and architectural features of the work subject to the supervision and approval" of a committee consisting of Mr. Frederick Law Olmsted, Mr. Augustus St. Gaudens and half a dozen distinguished architects. Of course, this was not a well-considered step. It degrades the position of landscape-architect from what ought to be its true rank in the well-ordered system of park management. It is an indignity laid upon Mr. Vaux personally, in that it assumes beforehand that his work needs supervision. It assumes that a pleasure-ground need not be a consistent work of art with unity of motive and purpose, and that it is possible to separate such a work into its elements with an engineer to make the roadway, an architect to build the walls and a gardener to treat the landscape, each one working without regard to any comprehensive and congruous plan. Fortunately, the gentlemen who constitute the new Park Board are men of integrity and intelligence, and, therefore, there is no reason to fear that they will cling obstinately to this erroneous conception. After they have given more study to the matter, and the full light of public discussion has been turned upon it, we may expect them to abandon the untenable position they now hold.

Notes on North American Oaks.

Quercus Toumeyi.—I propose this name for a small White Oak * discovered in July, 1894, by Professor J. T. Toumey, of the University of Arizona, on the hills above the mining town of Bisbee, among the Mule Mountains, in south-eastern Arizona. It is a tree twenty-five to thirty feet in height (see figs. 13 & 14 on pages 94 & 95 of this issue), with a short trunk six to ten inches in diameter, dividing near the ground into spreading limbs, which form a broad, irregular head. The bark of the trunk is about three-quarters of an inch thick, deeply furrowed, dark brown tinged with red, and broken on the surface into small, thin, closely appressed scales. The summer branchlets are light red and more or less covered with pale tomentum, and in their second and third years are slender, with thin dark brown, nearly black bark divided into small plate-like scales. The leaves are crowded at the ends of the branches, oblong or ovate, rounded or cordate at the base, acute and apiculate at the apex, entire with thickened revolute margins, or remotely spinulose-dentate, or often minutely three-toothed at the apex, thin and firm, light blue-green, glabrous and lustrous above, pale and pubescent below, from one-half to three-quarters of an inch long, from a quarter to a half of an inch broad, conspicuously reticulate-venulose, with slender midribs raised and rounded on the upper side and thin arcuate primary veins; they are borne on short petioles about one-sixteenth of an inch long and probably fall early in the spring with the appearance of the new growth. The flowers are unknown. The fruit is sessile, solitary or in pairs, and ripens in June; the nut is oval or ovate, from one-half to two-thirds of an inch long and a quarter of an inch broad, light brown and lustrous, covered at the acute apex with pale pubescence, and glabrous on the inner surface; the cup, which encloses less than a quarter of the nut, is thin and shallow, cup-shaped or turbinate, light green and pubescent within, and covered on the outer surface by thin ovate acute regularly and closely imbricated light red-brown scales with short rounded tips and coated on the back with hoary tomentum.

Quercus Toumeyi forms on the Mule Mountains the principal part of the narrow forest zone immediately above that in which Quercus Emoryi is the principal tree, the two trees mingling toward the lower margin of the belt of Quercus Toumeyi. Among North American species Quercus Toumeyi most resembles some of the spinescent or entire-leaved forms of Quercus undulata, from which, however, it differs in the dark brown deeply furrowed bark, that of Quercus undulata being ashy gray or light reddish brown and scaly, in the nearly black bark of the branchlets, the thinner and less pubescent leaves, and in the thinner cup-scales.

Quercus grisea.—Liebmann's type of this species, collected near El Paso by Charles Wright, shows that, as Engelmann always believed, this is a form of the very polymorphous south-western Quercus undulata. It is a plant with cordate, mostly entire leaves, and nearly identical leaves can be found on plants growing on the cliffs above the cañon of the Arkansas River, in Colorado, which produce, among leaves of several different shapes, the undulate-dentate leaves of Torrey's type of Quercus undulata.

Quercus undulata, which can always be recognized by the blue color of its foliage from the green-leaved Rocky Mountain White Oak, Quercus Gambelii, with which it has often been confounded, is distributed from the cañon of the Arkansas River, in Colorado, to western Texas and through New Mexico and Arizona to southern Utah and Nevada and to northern Mexico. Usually shrubby, it was found last summer by Professor Toumey growing into a small bushy tree in some of the sheltered cañons of the mountain ranges of south-eastern Arizona. It is a form of this species with small entire or spinescent leaves (Quercus pungens of Liebmann), often clothed on the lower surface with fulvous pubescence, that covers the mountains of central Arizona, south of the Colorado plateau, with vast thickets six or eight feet high, from which cattle and sheep obtain the best fodder furnished by this region.

A good deal of confusion with regard to our south-western Oaks has been caused by the mistaken reference of one of the New Mexican and Arizona White Oaks to Liebmann's Quercus grisea. This Arizona tree (Quercus undulata, var. grisea, Engelmann, Whipple's Rep., vi., 250) is one of the largest and commonest Oak-trees of the south-west, and is found scattered over all the mountain ranges south of the Colorado plateau above elevations of about five thousand feet; it has oblong or obovate, entire or irregularly dentate, mostly cordate, narrow leaves, strongly reticulate on the lower surface, which, like the branches, is covered with yellow pubescence. The leaves vary much in width. Last spring I found at Fort Huachuca, in Arizona, trees of this Oak mostly covered with leaves of the ordinary form which bore individual leaves on fertile branches that were broadly obovate, and not distinguishable in shape and size from those of Quercus reticulata, a species with long-stalked, spicate fruit, of which, at first sight, this tree might be considered an extreme form, especially as its leaves resemble those of that species in their pubescent covering and prominent reticulate veinlets, but these trees differ in the character of the bark, in the length of the peduncles, which on Quercus reticulata are often five or six inches long, in the size and shape of the fruit, in the thickness of the cup-scales and in the cotyledons; these are purple and very astringent in both species, but in the former are united into a solid mass like those of Quercus oblongifolia and of the Live Oak of the southern states. As this species is without a name, I propose to call it Quercus Arizonica,† as it is

* Quercus Toumeyi, n. sp. Leaves ovate or ovate-oblong, rounded or cordate at the base, acute and apiculate at the apex, entire or remotely spinose-dentate, reticulate-venulose, persistent. Flowers unknown. Fruit sessile; nut oval or ovate, acute, glabrous on the inner surface; abortive ovules basal; cup thin, shallow, cup-shaped or turbinate, the scales ovate, thin, regularly and closely imbricated, tomentose on the back, produced into short free tips rounded at the broad apex.

† Quercus Arizonica.
Quercus Emoryi, Watson, *Wheeler's Rep.*, 17 (not Torrey) (1874).
Quercus undulata, var. grisea, Engelmann, *Rothrock Wheeler's Rep.*, vi., 250 (not Quercus grisea, Liebmann) (1878).—Greene, *Western American Oaks*, 30 (in part), t. 14.
Quercus grisea, Sargent, *Forest Trees N. Am., Tenth Census U. S.*, ix., 144 (excl. syn.) (not Liebmann) (1884).

one of the largest and most abundant trees in the southern part of Arizona, where it was discovered in 1871 by the party of United States explorers under command of Lieutenant George M. Whipple. Quercus reticulata in Arizona and New Mexico is confined to the summits and high cañons of a few of the highest mountain ranges, where, as a low shrub or small tree, it leads a precarious existence, while Quercus Arizonica is a large tree, the trunk sometimes four feet in diameter, growing from the upper margin of the mesas to the mountain-tops. In characters it is nearly intermediate between Quercus reticulata and Quercus oblongifolia, resembling the latter in its purple connate cotyledons, but differing from it in its thicker bark, pubescent branchlets, thicker, rigid, pubescent, oblong leaves, in its larger fruit and thicker cup-scales. It is a tree, too, of higher elevations than Quercus oblongifolia, which rarely ascends above five thousand feet, covering, with Quercus Emoryi, the upper part of the mesas, especially where mountain cañons open to the plain, and below the principal growth of Quercus Arizonica.

Quercus dumosa.—Of all North American Oaks this species of California is the most variable in the shape of its leaves. The ordinary form of the coast-ranges in the southern part of the state is a low shrub with oblong leaves, rounded or acute at the apex, with sinuate or spinose-toothed or entire, or slightly lobed margins, and usually about three-quarters of an inch long and half an inch wide, with short petioles and coarsely reticulate veinlets; but in sheltered cañons, on some of the islands off the California coast, a few individual plants attain the size and habit of trees, and produce large, deeply lobed leaves not very unlike those of the eastern White Oak. This is the Quercus MacDonaldii of Greene; and no one, from the mere examination of herbarium specimens taken from one of these trees, could imagine that they belonged to Quercus dumosa. When the trees are seen in their native thickets, however, it becomes apparent that they are only more vigorous individuals of a species which is represented in the same thicket by individuals with small and entire or spinescent or slightly lobed leaves. In these island cañons the same individual bears entire, spinescent, or rarely lobed, large or small leaves on the same or on different branches; and vigorous shoots on plants with otherwise small entire or spinescent leaves often produce large deeply lobed leaves five or six inches long. Seen from a little distance these large-leaved individuals cannot be distinguished by their habit, color and general appearance from their associates. North of San Francisco Bay the prevailing form of Quercus dumosa is distinguished by its rounder, thicker and paler leaves, which are concave on the upper, and strongly revolute on the lower, surface, with entire or spinescent margins. This very distinct variety was called by Engelmann Quercus dumosa, var. bullata, but as bullata had been used before as a varietal name of another species of Quercus, I shall substitute for it revoluta, and call this variety Quercus dumosa, var. revoluta.

Quercus Durandii.—This White Oak of central Alabama and Mississippi, of central and western Texas and northeastern Mexico, was discovered in 1850 in western Texas by the botanists of the United States and Mexican Boundary Survey, and was first described by Torrey in the botanical report of the commission, published in 1858, as Quercus obtusifolia, var. brevilobata. The next year it was found by Mr. S. B. Buckley in central Alabama, and in 1860 was described by him in the Proceedings of the Philadelphia Academy as Quercus Durandii, but Torrey's name is older than Buckley's, and so will have to be adopted, and as Quercus obtusifolia (perhaps a misprint for obtusiloba) had been used before Torrey applied it to this species, Torrey's varietal name is taken up, and this handsome and distinct southern White Oak will appear in *The Silva of North America* as Quercus brevilobata, a name which, fortunately, pretty accurately describes the form of its leaves.

Quercus Muehlenbergii.—The oldest varietal name of this species, Quercus Prinus acuminata of Michaux, published in 1801, was passed over by Engelmann when he raised this variety to a species because there was a Quercus acuminata published by Roxburgh in 1832. Michaux's varietal name, however, being older than Roxburgh's specific name, it must be taken up under the rules of nomenclature adopted by American botanists. Quercus nana must replace Quercus ilicifolia, which was first described by Humphrey Marshall in 1785 as Quercus rubra nana, a fact pointed out as long ago as 1801 by Willdenow & Muehlenberg in their paper on American Oaks in the third volume of the *Neue Schriften Gesell. Nat. Fr. Berlin.* And finally, in raising Chapman's Quercus obtusifolia, var. parvifolia, from western Florida, to the rank of a species, I find that parvifolia was used a year earlier by Alphonse de Candolle as the name of a variety of another Oak, so it is not available for this species, which I wish to call Quercus Chapmani, in honor of the author of *The Flora of the Southern United States*, who first distinguished it.

C. S. S.

Foreign Correspondence.

London Letter.

The Weather.—Severe frost has been experienced in England since January 23d. The temperature at Kew has been below freezing-point since the 25th—that is, for three weeks, and from February 6th to 13th the minimum temperature on the ground ranged from seven degrees to zero, the maximum in the screen in the same period ranging from twenty-three to thirty degrees. This is very exceptional, nothing approaching it having been known here since the time of the Crimean war (1856). The Thames is frozen over at Kingston; a coach and four have been driven across the Serpentine in Hyde Park; there is a water famine in many districts in consequence of the freezing of the water-mains, the frost having penetrated into the ground to a depth of two feet. Following an exceptionally mild November and December this severe cold is certain to do an enormous amount of injury to garden-plants. The rise in the price of vegetables, including potatoes, has been great, and it is probable that garden produce generally will be at a high premium when the thaw comes.

The Royal Horticultural Society held its annual general meeting on February 12th. Sir Trevor Lawrence, the President, drew attention to the principal features in the report, which records, among other things, that twenty-two exhibitions had been held; that one hundred and seventy-eight first-class certificates and three hundred and seventy-one awards of merit had been adjudged by the several committees to as many plants, fruits and vegetables; that the experimental and trial work in the garden at Chiswick, under the superintendence of Mr. Barron, had been of an important character, many new varieties of Cauliflowers, Peas, Potatoes, Tomatoes and Strawberries having been cultivated and examined by experts; also of Carnations, Picotees, Cannas, Clematis, Campanulas and other popular garden flowers. The examination in the principles and practice of horticulture, held on May 1st, had resulted in 126 candidates presenting themselves, nearly one hundred of whom passed, two having won scholarships worth £39 a year each.

A committee has been appointed to draw up a code of rules and regulations for judging at fruit and flower shows. The Scientific Committee, composed of eminent men of science, invite all interested in horticulture to submit to them cases of diseased, injured or abnormal plants of all kinds, and offer to give advice in respect to the prevention or cure of disease. The income of the society for 1894 amounted to £5,550, and the expenditure to a little over £5,000. The present condition of the society is on the whole most satisfactory. The want of a suitable home and exhibition hall for the society is still felt, and the further development of Chiswick as a representative school of horticulture and experimental ground for English horticulture is generally hoped for by those who know the value

such an establishment would have in the promotion of horticulture. Botany and scientific gardening are looked after at Kew, but there is much need of a national fruit and vegetable garden such as Chiswick might be.

Phalænopsis Youngianum.—A fine spike of flowers of this handsome, large-flowered Orchid was shown on Tuesday by Baron Schrœder, and was awarded a first-class certificate. It is said to be a natural hybrid between Phalænopsis Aphrodite (amabilis) and P. Stuartiana, Messrs. Veitch & Sons having imported it accidentally a year or so ago among a batch of the last-named species. The spike shown by Baron Schrœder bore ten flowers, each nearly three inches across, or as large and full as a good form of P. Aphrodite (amabilis), the color being blush-white, with the lower sepals and front lobe of the lip spotted with red-brown, and the side lobes of the lip striped with crimson. It was first flowered in February last year by a Mr. G. Young, and then obtained an award of merit.

Phalænopsis intermedia Portei.—The largest flower-spike I have ever seen of this plant was shown last Tuesday by Lord Rothschild Tring, and obtained a first-class certificate. It was two feet long, with five branches each, from six to nine inches long, and it bore forty flowers each about two inches in diameter and colored white, with a tinge of purple at the base of each segment, the lip being yellow, amethyst-purple and red. This variety was introduced in 1861 by a Frenchman named Porte, and first flowered in the collection of Messrs. H. Low & Co. It is the best of the several forms known of P. intermedia.

Calanthe Baron Schrœder is the most beautiful of all Calanthes. I noted it in one of my letters about this time last year, when it was shown by Baron Schrœder, in whose garden it had been raised from C. vestita oculata, crossed with C. Regnieri, and it obtained a first-class certificate. The baron showed a flower-spike of it again last Tuesday; it was three feet in length, carried twenty-five perfect flowers, each two inches across, in form equal to the very best of C. vestita, and in color absolutely beyond comparison, being wholly of a deep, glowing maroon-crimson, the lip darker than the rest of the flower. This is an Orchid of quite exceptional merit, Calanthes of this section being as easy to grow and flower as any Orchids, and they flower at a time when they are especially valuable. We have many good varieties and hybrids among Calanthes now, but this is much better than any of them. There is something to be said in favor of hybridizing Orchids when a plant like this Calanthe is the outcome.

Cymbidium eburnet-Lowianum var. superbum.—This is an improvement on the hybrid whose parents are indicated in the name, and which was raised and flowered by Messrs. Veitch & Sons in 1889. The variety has larger, better-formed flowers, which are also clearer in color, being cream-yellow flushed with rose, with a blotch of crimson on the front lobe of the lip. The habit of the plant and form of the flowers resemble C. eburneum. The plant which was shown by Messrs. Veitch & Sons on Tuesday last had a spike eighteen inches long, bearing four flowers, each four inches across. It was awarded a first-class certificate. Mr. Veitch informed me that this variety was raised from seeds out of the same pod as produced the type flowered in 1889. The latter I called poorer than either parent, but the variety is a good acquisition.

Fig. 13.—Quercus Toumeyi, n. sp.—See page 92.

Odontoglossum coronarium is a noble Orchid, but somewhat difficult to flower. Last Tuesday two large flower-spikes of it were shown, one from the garden of Sir Trevor Lawrence, the other from Baron Schrœder. The latter bore twenty-five flowers and was deservedly awarded cultural commendation. The plant thrives in the coolest and moistest house, and it appears to delight in as much moisture at the roots as a Disa. It has a stout, long rhizome, bearing large ovoid pseudo-bulbs three inches or more apart, and leathery leaves ten inches long. The spike is erect, about a foot long and generally crowded with flowers, as in a Hyacinth. Each flower is two inches across, with equal spreading oblong fleshy segments colored coppery red, with a yellow margin and a few yellow spots at the base, the lip being

wholly yellow, except at the base. The whole surface of the flower shines as if it had been coated with varnish. It should be planted in sphagnum and peat in a shallow teak basket or raft and supended near the roof glass in a shady position in the cool house.

HYBRID CYPRIPEDIUMS.—A list, presumably complete up to the time of publication, of all hybrid Cypripediums, has been drawn up by Mr. H. J. Chapman, gardener to Mr. R. I. Measures, of Camberwell, whose collection of Cypripediums is the largest known. Mr. Chapman's list is published in *The Gardeners' Chronicle* this week. It comprises no less than five hundred and twenty-two hybrids. The parents in each case are given, and also the raiser's name. It must be acknowledged that however much some of us may see fit to grumble at the creation of such a host of what I call pedigree Orchids, and however poor we may vote many of them to be as decorative plants, they continue to excite a considerable amount of interest among a section, at any rate, of Orchid growers, for whom Mr. Chapman's list will have great value. Viewed as a record of work done by the hybridist, this list in itself is astonishing, while in the extreme divergence of character in the parents of some of the hybrids raised the systematic botanist has food for reflection.

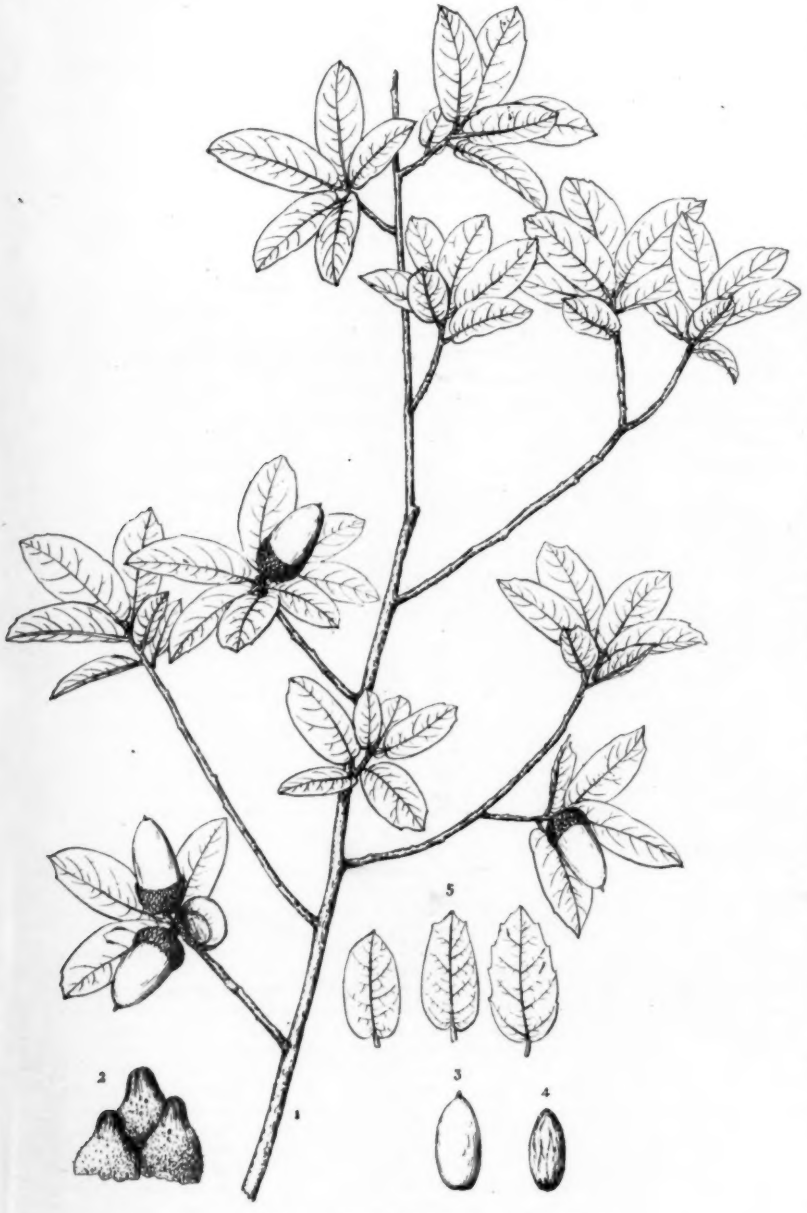

Fig. 14.—Quercus Toumeyi, n. sp.—See page 92.

1. A fruiting branch, natural size. 2. Cup-scales, enlarged. 3. A nut, natural size. 4. A seed, natural size. 5. Leaves, natural size.

FLOWER DRYING.—A collection of dried flowers of Orchids was an interesting exhibit last Tuesday. They had been prepared by Mr. Chapman, gardener to Mr. Measures, and they comprised Cypripediums, Cattleyas, Sophronitis, Lælias and similar popular brightly colored Orchids. The merit of the exhibit lay in the wonderful preservation of the colors, which were quite as brilliant as when the flowers were alive and looked, a short distance off, like accurately colored drawings. Mr. Chapman succeeds in preserving the colors by putting the flowers between sheets of blotting paper under sufficient pressure to prevent them from shriveling, and then placing them in a hot oven. The flowers thus treated are thoroughly dried in a few hours without any loss of color. When mounted on paper and exposed to light and air the colors in time lose a little of their brilliancy, but flowers that had been done a year had not appreciably faded. The difficulty is to fix the colors so that they will not fade. Mr. Chapman's method is likely to be of greater value to horticulturists than botanists.

INTERCHANGE OF SEEDS.—The botanical gardens of importance in Continental countries and the United Kingdom annually print and circulate each a catalogue of the seeds available for distribution from those ripened in the gardens, and also, in some cases, including surplus seeds obtained from tropical countries. These catalogues are, as a rule, posted to all botanical establishments so that selections can be made. In this way it is easy to replace losses among plants of botanical interest only, and especially of annuals and other easily lost plants which may fail to ripen in some gardens, but succeed in others. The custom is an excellent one. I know that at Kew it is found to be of considerable help toward maintaining the collections, and also that Kew contributes largely to the maintenance of collections in other gardens, as is shown by the fact that the number of packets of seeds ripened at Kew and distributed last year amounted to 5,200. This does not include the seeds received at Kew and redistributed to the colonies, etc. Is there such an interchange of seeds among the botanical gardens of the United States?

London. *W. Watson.*

Plant Notes.

HOUSTONIA CŒRULEA.—This charming, although diminutive, native plant is rarely cultivated, although not at all difficult to propagate and preserve. Where it is not indigenous, it is always an attractive novelty when in flower, and where it does grow wild it might profitably receive more attention than it generally gets. Where the plants grow

naturally they can be transplanted into gardens, frames or pots, and with ordinary care they will continue to thrive year after year. They will grow well in almost any good soil, one composed of sand and loam being apparently most congenial, and they luxuriate where they get plenty of moisture in the growing season, but are not too wet. They may often be found in great profusion on rocky hills near the seashore, where there is very little soil, but plenty of moisture from frequent mists or fogs, and where few larger plants get a foothold and overshade them. When potted and kept in a cold frame they can be forced into a profusion of bloom in midwinter, when the delicate beauty of the flowers is happily displayed above a low, close mat of green foliage. The flowering stems are rarely more than three or four inches long, and bear tiny yellow-centred, four-petaled flowers, which vary from almost pure white to a rosy lilac or light blue on different individuals. To the botanist these blossoms possess a peculiar interest on account of the fact that they are dimorphous, being of two forms of structure, some flowers having protruding stamens and short styles, and others having the stamens included within the tubes, while the styles are long and the stigmas exserted. This little Houstonia, sometimes called Bluets and Innocence, among other local popular names, being a perennial, will in time form quite a broad tuft by spreading from a single stem by slender thread-like root-stocks or creeping stems. The plants can be propagated by seeds or by division of the delicate masses of roots, which must then be carefully grown until they again form good independent tufts.

Nymphæa O'Marana.—This is a hybrid between Nymphæa dentata and N. Sturtevantii, raised by Mr. Peter Bisset, gardener to G. G. Hubbard, Esq, Twin Oaks, Washington, D. C., and now in flower in the glass-covered tank of Mr. John McElvery, which was described in our issue for January 9th. Indeed, it has been blooming every day since early in September, and it is constantly showing new buds, being more floriferous than N. Devoniensis at this season, and not excelled by any Water-lily in persistent and continuous bloom. This is particularly remarkable from the fact that the plant is growing in a pot only ten inches in diameter. After having passed through the shortest days of the year it seems now as vigorous as most Nymphæas do in July. Its large metallic green leaves resemble those of N. dentata, being strongly toothed at the margin, but they have a wider cleft. The full flowers are shaped like those of the same parent, are borne on stout petioles which lift them well above the water, and they measure eight or nine inches across. The color is a beautiful glowing pink, without any of the shading of magenta which is seen in N. Devoniensis. The stamens are of an orange color, with the marked incurved form which shows the blood of N. Sturtevantii, and they tint the petals with a beautiful reflection. The flower is rather lighter than that of N. Sturtevantii, but, unlike most other pink Water-lilies, they grow darker with age, instead of fading out.

Begonias President Carnot and B. François Gaulin are among the showiest and most effective winter-blooming shrubby Begonias. They are French hybrids produced by Monsieur Crozy, and are crosses of B. rubra with probably B. Olbia. They resemble B. rubra in habit, well-grown plants forming strong, straight shoots with flowering side branches. The foliage is distinct from either of the parent species, being oblique, smooth-veined, large, light green above, and sometimes suffused with red below and on the edges. The plants produce freely well-furnished racemes of large flowers, some two inches long, and mostly female. There is a difference in the coloring of the two hybrids, the latter being the lightest. The coloring is not as pure in tone as that of B. rubra, having a somewhat bluish cast in the pink of its flowers. Plants are easily propagated, and cuttings struck now will make strong plants for next winter. B. François Gaulin was figured in Garden and Forest (vol. vi., page 123), but the raceme there shown was smaller than those on well-grown plants.

Bomarea Carderi.—Bomareas are somewhat rare plants in this country, although they were grown in English gardens nearly twenty years ago, and have been known more than fifty years in botanical collections. They belong to the Amaryllidæ, being closely related to the Alströmerias, but they have long, slender, twining stems with bright green leaves, and bear flowers in terminal umbels. A plant of B. Carderi in a private house near this city is now in bloom, and, indeed, it has been in bloom since midsummer, and its flowers are almost as large as those of a Lapageria. The color of the flower is a rich rose, with conspicuous brown spots near the tips of the outer segment, and larger purplish spots on the inner segments, which are greenish white. In large plants the umbel will contain forty of these flowers, and will measure as much as two feet or two and a half feet across. The roots produce fleshy tubers, but they have no buds, and, therefore, are not useful in propagation. They are multiplied by the means of seeds or by dividing the root-stalks in the spring. They seem to do best in a well-drained border in a warm sunny greenhouse. The stems of B. Carderi often grow to a length of ten or twelve feet, and being covered with broad, ovate, bright green leaves, they are striking plants, and commend themselves as suitable for every considerable greenhouse collection.

Cultural Department.

Grapes in North-eastern Vermont.

It was in 1867 that I planted my first Grape-vines on the shore of Lake Memphremagog; the first, I think, that were ever planted there. Hartford Prolific was the variety, and the only one I had any hope of even partially ripening. It is the shortness of the season alone which forbids grape-growing in this locality. Otherwise, it is an ideal spot for the purpose. Fog is unknown, and dull days unfrequent; but frost comes in September, and it sometimes does not wait many days after the end of August. There are exceptional years, perhaps one in six, when frost holds off much longer; but the Grape we want is one which will be ready to cut by the tenth of September.

The orchard on my old place, but a few rods from the east shore of the lake, is very well protected from light frosts; but until near the first of June, and sometimes as late as the tenth, we are liable to have a killing frost. This, however, is not common, having occurred but thrice in twenty-five years. My Grape-vines are on a light trellis, in front of a high and tight fence, eight hundred feet long and facing south; stakes are also used, and the summer pruning is less severe than is usual in commercial vineyards, as I am not growing for market; and handsome clusters not being imperative, while protection from frost or chill is, I do but a moderate amount of pinching. The result is, not so many handsome clusters, but more ripe ones.

As to varieties, I have invested in every new early sort as it has come out, so that I have a much larger assortment than I should plant if I were to begin afresh. Hartford Prolific has been quite discarded, not only for shelling, but because it is too poor in quality. Eumelau has also been dropped, though only lately, to give place to more promising sorts. In fact, none of Dr. Grant's seedlings have proved very useful. Salem is the only one of the Rogers hybrids. It ripens so as to be eatable in about half the seasons. Israella is too late, though it has sometimes ripened quite nicely. Delaware gets fairly sweet in most years, and is regarded as the best of the older sorts. In a hot summer Brighton ripens perfectly; but in a steadily cool one it will not ripen at all, while the vine is very apt to die after such a season. Moore's Early colors, but very rarely gets sweet. It is, however, a good culinary sort, especially for jelly.

I had got pretty fully convinced that this was as far as we should ever get in grape-growing in northern Vermont, when, at the meeting of the American Pomological Society at Boston, in 1887, my eyes lighted upon specimens of the "Green Mountain," dead ripe, when not a single other variety on exhibition was eatable. Here was a grape which I felt sure would ripen every year on Lake Memphremagog; and it does so. Since then I have fruited the Diamond, and find that it is but very little behind the Green Mountain in season; while I cannot see why it will not prove a good commercial variety, which Green Mountain never can be, on account of the feeble adhe-

sion of the fruit to the stem. After such successes I am beginning to think that even in the cold north we may be able to make commercial grape-growing at least moderately successful. It is most gratifying, after so much failure, and with so little expectation or reason for hope, that such a measure of success has been reached. And we may do better yet, for the Wild Grape is native here, draping the trees by the river banks. The name first of all given to New England points to a future when it will be truly a land of Vines.

Newport, Vt. *T. H. Hoskins.*

Cinerarias.

LIKE many other old-time favorites, these flowers have been left somewhat in the background, although few, if any, greenhouse plants supply us with such a variety and brilliancy of color. In England they are more largely grown, and every year witnesses some improvement in Cinerarias, either in habit of growth, form of flower, or variety of color. The cooler English climate during the growing season is more suitable to the growth of these plants than ours, and this may partially account for their greater popularity across the sea. They can sow seed much earlier, and this allows a longer season of growth, with firmer, more mature and more stocky plants. Still, we have the advantage of brighter weather and a drier atmosphere during the winter months, and with a little study of the required temperature there is no reason why we should not grow them equally as well. The first of August is early enough to sow the seeds; they germinate readily with ordinary care and should be pricked out into boxes as soon as they are fit to handle. A cold frame facing north, with slight shade from strong sunlight, will be found most suitable for them at this stage, and they should be potted on as they attain size, first into three-inch pots, and finally into eight-inch pots, a light but moderately rich soil being used all along. A plentiful supply of water, but no stagnation, is essential. The most troublesome insect enemy is green fly, which can be destroyed either by smoking, dusting with tobacco powder, or dipping in a weak solution of any ordinary insecticide. For winter quarters a house where they can be kept well up to the glass, and where a temperature of sixty degrees by day and forty degrees by night can be maintained, will suit them well. All flower-buds should be pinched off as they appear until about the first of January, after which time pinching should be discontinued, and this will bring them in good time for Easter. When the pots are well-filled with roots they will be greatly benefited by occasional applications of liquid-manure. Nothing is more suitable for this purpose than water from the cow-sheds, which, however, should be well diluted.

Tarrytown, N. Y. *William Scott.*

Nelumbiums.

THE Nelumbiums have no rivals among aquatic plants for stateliness, and they can be used not only in the large lakes and water-basins of public and private parks, but they have a refined character which makes them appropriate even for small water-gardens. They are so perfectly hardy that it is difficult to understand the frequent complaints that they are difficult to grow and establish. One cause of failure may be that they are planted too early. Planting should be delayed until warm weather and genial conditions set in, so that the tubers or plants will make active growth at once. When tubers are received from a distance they may have been subjected to a warm temperature in shipment, and, therefore, the chill of a plunge in cold water may check their vital energies. Where the tubers have made young rootlets it is much safer to plant them in shallow boxes and keep them protected either in a cool greenhouse, pit or frame until it is safe to place them in permanent quarters. By all means avoid the check to growth, which always means weakness, if not actual death, to the plants.

Another good plan is to place such roots in large pots or pans and keep them growing until warm weather, when the plants can be turned out with a good ball of soil and roots and carefully deposited where they are to bloom. Where there are no tanks for the reception of large pots, tubs can be used. Another method is to start seeds. Of all seeds none germinate more readily than those of Nelumbiums, provided the hard shell is filed through at the base of the seed so that water can penetrate. The plumule escapes first, sometimes two or three days before a rootlet is visible, and always from the base; therefore, by filing at this particular spot much assistance is given to the young seedlings. In a temperature of seventy-five degrees the seed will germinate in about six days, sometimes less. The seeds may be placed singly in small pots, or may be started in water and potted afterward; in either case the young plants must be grown and established in large pots or pans before planting permanently. Nelumbiums will not flower the first year as seedlings, but will, in most cases, do so the second or the following year. Apart from their flowers, the Nelumbiums are highly ornamental plants and worthy of cultivation for their foliage alone.

Clifton, N. J. *W. Tricker.*

[Two seeds of Nelumbium were placed in a small bottle of water and set on a desk in this office, and they germinated within a week.—ED.]

A Few Annuals.

THERE seems to be a perennial demand for information about annuals, not only from beginners in gardening, but from those who are more or less familiar with flowers, but do not care to experiment—persons content to wait till they find a good thing mentioned. Last year I made full notes of the more important annuals and a few other useful flowers which can be readily grown from seed in one season. It may be of some use now to furnish notes of other annuals which may be considered of secondary interest. By secondary interest I mean not that these flowers are less beautiful than the first mentioned, but they are not those one would usually select for a limited list. Often they are perfect as border flowers, but lack either the stability or grace of form which is required in flowers useful for cutting. For instance, nothing is more beautiful in a large border than a mass of the Eschscholtzia, with its finely cut glaucous leaves and its brilliant yellow flowers of various shades, borne so freely, yet it may be considered of secondary importance, as these flowers are quite fugacious. It must be, of course, understood that, in recommending, one is influenced more or less by his prejudices or feelings. A writer in GARDEN AND FOREST lately suggested that I was influenced in the choice of varieties of a flower by sentiment. The accusation was partly correct, and I am convinced that if an amateur does not grow plants and sentiment in his garden in about equal proportion he is not getting the full benefit of his labor. The most satisfactory flowers are those, however common, from which one gains inspirations of beauty and to which some pleasant associations are attached.

As for the cultivation of these quick-flowering plants, we are apt to plant the seeds too early, either in the greenhouse, or, lacking this, in some spare corner of the dwelling, and in either place they become a burden and are never as strong and vigorous as those grown with more air and exposure. In gardens managed in a comfortable, leisurely way, and well furnished with a good assortment of plants, the planting of seeds of annual flowers may be delayed till they can be sown in an outside frame, where they will progress without check and make strong plants, quite early enough. When the night temperature ranges about 50 degrees, F., is the proper time. This will usually be toward the end of April here. In this procedure we have the spring-sown annuals commencing to flower just after the June Roses. In the early year we have flowers in abundance from the bulbs, the flowering shrubs, and the early-flowering herbaceous plants. The fall-sown Poppies and Centaureas will cover the ripening foliage of the bulbs and lead the flowering of those annuals which will naturally fill the gap as the hardy Roses pass away. It is difficult to forward many of the annuals much, and the trouble of early care under shelter is scarcely warranted.

The list of annuals, or plants to be treated as such, given last year, included as most usually desirable China Asters, Calliopsis, Calendulas, Marguerite Carnations, Cosmos, Centaureas, Chrysanthemum coronarium, Indian Pinks, Gaillardias, Sunflowers, African and French Marigolds, Mignonette, Nasturtiums, Pansies, Poppies, Sweet Peas, Torenias and Zinnias.

This list takes no account of vines and a number of hardy annuals, many of which are interesting and worth growing. Among the many remaining annuals of the seed lists, not climbers, the following seem the most desirable: Sweet Alyssum, Balsams, Candytuft, Eschscholtzias, Swan River Daisies, Chrysanthemums (single annual), Larkspurs, Marvel of Peru, Nicotiana affinis, Petunias, Phlox Drummondii, Portulacca, Salpiglossis, Spherogyne, Stocks, Venidium Calendulaceum.

This list, it will be seen, includes some of the most important items of the seedsmen's stock and some flowers considered indispensable by many growers, but the two lists are offered as a fair guide to those whose experience is, perhaps, a blank. These plants are so familiar in old gardens that the seedsman usually dismisses them with a few lines. I hope to add a little to the perspective by briefly noting their beauties and shortcomings, with a slight account of the climbers.

Elizabeth, N. J. *J. N. Gerard.*

Correspondence.

The Cultivation of Tea in America.

To the Editor of Garden and Forest:

Sir,—In Mr. Watson's London letter, in your issue of January 16th, I notice some remarks on Tea cultivation which might induce American planters to think that the plant could be profitably cultivated in the southern states. It will, no doubt, grow there and may produce tea of fair quality, but unless labor can be had at an almost nominal rate it cannot compete in price with tea from India, Ceylon and China. A great deal of the manufacturing process is now done in India and Ceylon by machinery at a low cost, but hoeing and picking must be done by hand, and as in Sikkim we pay coolies at the rate of from four to seven rupees a month, without food, which is equal at the present rate of exchange to from one to two dollars a month, and have virgin soil of the greatest fertility, in a most forcing climate, at a trifling cost, we have advantages in India which seem to me to make competition in other countries impossible. Statistics show that the proportion of China tea now used in England has steadily fallen, notwithstanding its very low price. The average price of Indian tea in Calcutta on January 24th was nine annas, equal to about fifteen cents a pound; and though this includes much tea of low quality, yet an average of ten annas is a very profitable price for the total output on many plantations, and some pay fairly with an average price of only six annas.

I was much surprised when in America to find how little known Indian Tea is there, and how few people really know the taste of good tea. If it were understood that almost every leaf of Chinese tea is contaminated by perspiration, owing to the system of rolling by hand still followed there, while Indian tea is now almost everywhere rolled by machinery, I feel sure more people would drink the India product. Adulteration is absolutely unknown in India, while much China and Japan tea is artificially colored. Of the various sorts of Indian tea, Darjeeling is the finest for drinking unmixed. Assam and Cachar tea is stronger, and the best of it too astringent for many palates. Ceylon is good cheap tea, but rarely has the delicate aroma of Darjeeling, Pekoe or Broken Pekoe. The presence of a number of the young unopened leaf-buds, technically called tips, in Indian Tea, is always a sign of good quality, and in the finest qualities of Darjeeling tea there is a delicate after-taste of chocolate, more easily perceived when the tea is drank half cold. Weak cold tea is about the best and most refreshing drink I know in hot, dry climates, and much less heating than coffee, which is also more difficult to make properly.

Cheltenham, England. *H. J. Elwes.*

Flowering House-plants for Early Winter.

To the Editor of Garden and Forest:

Sir,—Owing to certain mischances, the last autumn found us with only a few large plants for winter display, and these were mostly so-called foliage plants. We wanted something bright in the way of flowers during November and December. We had quantities of potted plants, but their lack of size and dignity emphasized the need of something with more character and distinction. Later on we could have Azaleas, Lilies, Genistas and Holland bulbs, but for these two months we had no decorative flowering plants except Chrysanthemums. In early autumn we had a three-days' rain that soaked the beds to the bottom, and as frost approached I thought of the bright Salvias and royal Dahlias that would soon be frozen and blackened. Why not try these for window-plants? One deep stroke with mattock behind the ball of roots, then one on each side, then a deft understroke and a steady leverage from the mattock, and Salvias three feet in diameter, Celosias with heads sixteen inches long, clumps of Crozy Cannas and great bushes of Cosmos came up with huge balls of earth unbroken. Placed in tubs the lifted plants were shaded for a day or two, but this precaution seemed unnecessary. Not a leaf withered or a flower drooped. The gorgeous Cockscombs and flaming spikes of Salvia made a bright display for three months, while the smaller and later plants had a chance to do their growing and make ready to take their place later on.

These garden-grown plants had double the bulk and weight of roots that would have been made by a pot-grown plant. But to offset this disadvantage they had an exuberance quite unusual to indoor plants, and, altogether, the experiment was so successful that I shall certainly try it another year.

Pineville, Mo. *Lora S. La Mance.*

Notes from Wellesley, Massachusetts, and its Vicinity.

To the Editor of Garden and Forest:

Sir,—On the occasion of a late visit to Mr. Joseph Tailby, of Wellesley, noted as the introducer of Grace Wilder and other good Carnations, we found that the Mrs. Fisher, as grown here, is superb. The centre bed of one long house, planted with this variety, was a sheet of snowy bloom, and the individual flowers showed little of the tendency to burst their calyces, an objection which is sometimes urged against this plant when it is grown in the winter, and there can be no doubt that where it does well it is still the leading white Carnation. Mr. Tailby's plants are the best I ever saw, and worthy of a long journey to see. Of the seedlings here, Henrietta Sargent, the new yellow, and Helen Schaffer, white, are two of the best. William Scott is the leading pink variety, but Ada Byron appears to be a failure.

A small bench of the new Farquhar Violet looked promising, while Lady Hume Campbell and other standard varieties were recovering from an attack of leaf curl and flowering finely. At the Wellesley College greenhouses two beautiful specimens of Acacia pubescens, with stems seven feet long, were in flower, and their drooping branches, thickly hung with racemes of sulphur-colored flowers, testify to what was said in a recent number of Garden and Forest as to the value of this Acacia for winter flowering. There are few Orchids here, but all are well grown, and two plants of Dendrobium nobile were seen which can hardly be duplicated elsewhere in the United States. One of these specimens usually finds its way to the spring exhibition of the Massachusetts Horticultural Society, and is always a centre of attraction there. The twin plants are now carrying from six hundred to a thousand buds each. The sweet-scented Pilumna nobilis and Angræcum superbum were both nicely in bloom, and a fine lot of Odontoglossums were very interesting. At Mr. Hunnewell's place the plant of Clematis indivisa, which has been described in your columns, covers a large part of the roof of one of the cool houses, and it is now a picture, thousands of its beautiful white flowers being fully expanded. For covering pillars and training thinly over the roof of a greenhouse, nothing is more desirable than this plant. It will flower freely in a six or eight-inch pot, but to see it in perfection it should have the treatment which Mr. Harris gives it here, where it is planted out and occasionally root-pruned to keep it within bounds. I noticed fine flowers of Phalænopsis in the warm Orchid house, but most of the Cattleyas, Dendrobiums and other Orchids are held back so that they can flower with the Rhododendrons, at which season Wellesley is at its brightest. At Mr. Walter Hunnewell's I observed a fine display of the best winter-flowering Begonias, and was interested in Mr. Hatfield's specimen Chrysanthemum plants, which were already in four-inch pots. Here the Violet, Lady Hume Campbell, looked clean and healthy and was behaving properly, as it was at Mr. Arthur Hunnewell's place.

At Mrs. B. P. Cheney's, South Natick, Mr. John Barr, the head-gardener, showed me a Rose house which contained flowering plants of Madame de Watteville, Catharine Mermet, Bride, Bridesmaid and Perle de Jardin, which were as good as can be seen anywhere. Cyclamens here in ten and twelve inch pots, Cinerarias and Carnations are all capitally done. In the graperies I observed by the mulching on the border that the vines here received generous treatment, and it is worth stating that in too many places the failure of fruit is owing to starvation, the vines neither receiving a proper amount of food or of drink. At the greenhouses of Mr. David Nevins, in South Framingham, I saw those remarkable Violets which have made such a sensation at two recent exhibitions in Boston. The average flowers were as large as a half-dollar, and exceptional ones will cover a silver dollar comfortably. The variety chiefly grown is Marie Louise, but Swanley White is equally good. The plants are grown in eight-inch pots in a Carnation house temperature, and many of them show three dozen, and even more, fully expanded flowers, with any number more coming on and not a sign of spot or leaf curl. Mr. McKay, the grower of these remarkable flowers, pointed out a group from which he had picked a thousand flowers the day before and they could hardly be missed. Violets are not the only things done well here, as the hybrid Perpetual Roses and a few well-grown Orchids testify. The most successful Carnations here are Lizzie McGowan, Mrs. Fisher, Tidal Wave and Ferdinand Mangold. Below the benches, in the cool house, some beds were carrying a good crop of Mushrooms, as well as Rhubarb and Sea Kale.

A short walk from Mr. Nevins' estate brings us to Mr.

William Nicholson's establishment, in Framingham Centre. This is one of the best-known florists' places in the neighborhood of Boston. Carnations make the leading feature of the place, and all the standard kinds are grown in quantity. The new varieties, Nicholson and Ada Byron, while not successful with some growers, here make a splendid show, the plants being smothered with flowers and buds, borne on long stems. Other kinds specially well grown are Mrs. Fisher, Hector, F. Mangold, William Scott, Daybreak and E. G. Hill. The sale of rooted cuttings is here a specialty, and many thousands are now in the cutting-benches. Roses fill a house one hundred feet by twenty, and a similar-sized house is devoted to Tomatoes, the kind chiefly grown being Nicholson's Hybrid, the standard forcing variety for the Boston market, and raised some years ago by Mr. Nicholson.

Taunton, Mass. *W. N. Craig.*

Meetings of Societies.

The American Carnation Society.—II.

THE display of cut flowers excelled in abundance, variety and general quality all previous exhibitions of the Carnation Society. Our report of the meeting concludes with some notes on the more promising seedlings, as well as the standard varieties in the leading classes and colors:

Something like seven thousand flowers, including seedlings, were staged at the exhibition, and two-fifths of these were different shades of pink. White flowers were next to the pink ones in number, and then scarlet, yellow, variegated and crimson followed in the order of abundance. Among the flowers of different shades of pink, William Scott had no peer, and in the classes for light pink flowers it captured nearly every prize. Larger flowers were shown of some varieties, such as Nicholson, but the stems were so weak that they hung over the edges of the vase, or else they had some other defect to countervail their superiority in size. Altogether, William Scott can be pronounced the best all-round pink Carnation in cultivation to-day; its superb color, good stem and healthy growth making it a success wherever tried. Next to William Scott, Daybreak was shown more largely than any other pink variety, and it was of very good quality. These two sorts are unquestionably the best of their color up to date. The old Tidal Wave, now seldom seen, was remarkably well shown by Dailledouze Brothers. The flowers were large, carried on stiff stems, and they looked fresh at the close of the exhibition, and their rich dark rose-color was unequaled, or, at least, unexcelled by any of the newer kinds. The best white was Storm King, as shown by Mr. C. W. Ward, of East Moriches, New York. It is a strong grower, with stout stems and large well-formed flowers. Alaska, with which Mr. H. E. Chitty, of Paterson, New Jersey, won the prize for the best vase of a hundred white flowers, is a cross between Puritan and Lizzie McGowan. It has a decidedly stouter stem than the latter parent and a flower of much the same form. The second prize in this same class was won by a seedling of Mr. Chitty's, which he calls No. 150. These were undoubtedly the finest flowers in the class, but they lacked strength, both of stem and calyx.

In the scarlet class, the new Jubilee, as exhibited by Mr. Hill, of Richmond, Indiana, was easily first. The color of the flower is a light scarlet, rather dull, and the petals are not fringed at all. It is very sweet-scented, too, which is rather unusual in a scarlet flower. The stems were remarkably strong, so that every individual flower stood erect, but the plant showed unmistakable signs of rust. Hector, which secured the second prize in this class, is a finely fringed large flower of a much brighter color than Jubilee, and if it had the stem of the latter it would be decidedly the better of the two. The Stuart was not largely shown. According to Mr. Dorner, who raised it, it is only seen at its best in a solid bed and kept under glass all the time. The new Meteor was quite the best of the few crimson sorts which were shown. In form of flower, stiffness of stem and strength of calyx this seems to be an acquisition. Jacqueminot was represented by one vase with remarkably strong stems, and although the flowers were smaller than those of Ferdinand Mangold, they were of a pure rich color, and the plant must be considered an acquisition to the crimson class.

Buttercup, which is very fickle in its behavior and has had to give place to Bouton d'Or, a beautiful lemon-yellow, and to the newer Dean Hole, was shown in admirable condition by Mr. Southworth, and if this old variety could always be grown in such form there is certainly no yellow equal to it. Helen Keller was shown by several growers in fine condition, and was far the best of the fancy marked flowers staged. Edwin Lonsdale's lot was superb in every respect, and the plants seem to succeed admirably throughout the Philadelphia district. Such flowers as these were never seen before in Boston. Minnie Cook, Mr. Chitty's new variegated variety, followed Helen Keller as the next best in its class, and it won the first premium for a vase of a hundred flowers.

Eighty new seedlings were shown, twenty-nine of which were pink, fifteen white, ten yellow, nine variegated, five crimson or scarlet, and the remainder some odd shades of color. These flowers were in many cases admirable, and showed a marked advance over the kinds now grown. Triumph, from Messrs. Hill & Co., was a specially noticeable pink flower with the best stems of any plant of its color, large, elegantly formed and a most pleasing shade. Among the dark pinks was Mr. May's Lena Saling, of which we have already spoken. It is somewhat lighter than Tidal Wave in color, with large flowers of a similar form and a perfect stem. Maud Dean, of a soft fawn color, paler than Daybreak, and shading to rose in the centre, Mr. Shelmire's Silver Queen and Mr. Hill's deep pink Arcadia were all good. Della Fox, described in last week's report, and commended because shown, not only as a cut flower, but also as a growing plant, was notable for the delicacy of its pink color. Besides Storm King and Alaska, of which we have spoken, Mr. Tailby showed a seedling called the Poor Man's Friend, with an immense flower, but rather tender calyx. Mr. Fisher showed Crystal, another large flower, but feeble in the stem. Of the new scarlets and crimsons there is no need to speak of any besides Meteor and Jubilee. Mr. May's Dean Hole is a fine bold yellow of first-rate habit, and Tailby's Henrietta Sargent had a clearer color than any other variety shown. Perhaps the best of the new variegated ones was Aramazinda, of Messrs. E. G. Hill & Co., who were the largest exhibitors of seedlings, and who staged twenty varieties, not one of which was ordinary. All the flowers were fine, the vigor and strength of their stems were noticeable, and at the close of the second day's exhibition nearly all of them seemed perfectly fresh, although they had been carried fifteen hundred miles, while most of the flowers from exhibitors in the neighborhood of Boston were closed up before the show was open or drooping hopelessly over the edges of the vases. Mr. Dorner's new variety, Bridesmaid, which many were anxious to see, arrived in a sleeping condition, and Simmons' Rose Queen was not exhibited. Altogether the seedlings were superior, and showed the usual annual advance in the quality of Carnations.

Recent Publications.

The Forest Flora of Japan. By Charles Sprague Sargent, Director of the Arnold Arboretum. Houghton, Mifflin & Co., Boston and New York.

The notes for this volume were collected by Professor Sargent in the autumn of 1892 when traveling in Hondo and Yezo, and they were first printed in the issues of this journal during the year 1893. Our readers, therefore, need no information as to the particular way in which the subject has been treated, nor need they be reminded that the book has a peculiar and practical value for American planters, since the climatic conditions of north-eastern Asia are so similar to those which prevail here, especially in our Atlantic states, that the trees and shrubs of one region can usually be trusted to make themselves at home when removed to the other. The original pictures are here reproduced, and with the beautiful type and printing on broad-margined pages the volume is a most attractive one.

Notes.

Dr. Hoskins calls attention to the fact that the greater proportion, if not all, of the Russian Apples seem able to resist the scab fungus.

The peach-growers of the southern states declare that the freezing weather has not destroyed the fruit-buds, as was reported, but that it has held the buds back so that the bloom will be later than usual, and, therefore, ensure the blossoms and the newly set fruit from injury by late frosts.

Mr. Thomas Meehan takes note of the fact that the beautiful Cypripedium insigne is a good window plant. Its native habitat is in deep shade, so that the obscurity of a dwelling-

house is rather agreeable to it, and as it naturally flowers in winter it needs no forcing to make it bloom. A plant is mentioned which is growing in an eight-inch pot under ordinary living-room conditions, and during the past winter it had seven flowers, which began to open early in December and have continued one after the other until February.

The most conspicuous objects in the windows of the florists' shops just now are compact plants of Azalea in full bloom. It is rather strange that the newer varieties are mostly those which bear double flowers, since the single-flowered kinds are generally more effective. The fashion, imported from France, of swathing the plants as well as the pots with ribbons and paper and decorating them with bow-knots of various material has nothing to commend it. Much of the beauty of a well-grown plant is in its form, and when this is hidden by upholstery the plant loses half its charm.

A broad sheet, entitled *The Spray Calendar*, prepared by Mr. E. G. Lodeman, has just been issued by the horticultural division of the Cornell Experiment Station. It gives a list of the remedies for the more dangerous fungous diseases and insects, which are to be used on different fruits and crops. It tells how, when and how often to apply these remedies, and in different kinds of types it indicates the comparative importance of the applications to be used. All the needed facts are grouped together in a convenient form, so that this will not only be efficacious in instructing those who are not well informed on these matters, but will serve to remind those who already know how to make these applications when the time for using each has arrived.

An English lady, Miss Wilkinson, has, in recent years, made herself widely known as a landscape-gardener, capable of undertaking public works and of carrying them to completion under her personal supervision, and Vauxhall Park, in London, opened to the public last year, is one of her latest works. Commenting upon these facts, and characterizing Vauxhall Park as "a remarkable work in every respect," the *Revue Horticole* recently said: "So we see that a woman has entered the professional camp, the camp of practicing artists, and has proved her right to a distinguished place in it by worthy results. It seems a curious sign of the times. Who knows whether the delicate gifts of woman may not introduce valuable innovations, unknown refinements, into our gardening conceptions?"

The current number of *Scribner's Magazine* contains an article on bedding-plants, by Samuel Parsons, and it is illustrated by some excellent pictures taken from actual groups in the different parks of the city. All of these beds are easy and natural—that is, they show no trace of formality or mannerism—and there are accompanying maps which explain the method of arrangement, the plans having shaded sections to indicate the particular plants which are used in every location. The pictures show how much better this irregular planting is than straight ribbon lines or geometric beds, and the maps explain that the irregularity is no haphazard mingling together of different forms, sizes and colors, but a well-studied system, analogous to that which a good planter would use in disposing trees on a wood border, or of shrubs when massed for general effect. Tender bedding-plants are always expensive; they are often misplaced, and where they can be made effective masses of select woody plants and perennial herbaceous plants are preferable, as a rule, and the shrubs will have a beauty of their own all winter. But in large places and public parks bedding-plants will add variety to the garden effects aimed at, and the grouping described and figured in this article is much more satisfactory than the regular and rigid carpet patterns so often used. Particularly pleasing are the examples where single plants or groups of two and three have broken away from the mass and strayed over upon the turf.

Both in England and in America "lumber" means useless, bulky things which are cumbersome or in the way. In America only it is also used as a synonym for "timber sawed or split for use." This fact all modern dictionaries note, but even the American ones make no attempt to trace its origin. It is interesting, therefore, to find such an attempt in an article recently published in the *American Architect and Building News*, and signed by Mr. C. W. Ernst. In what Mr. Ernst calls "the Tudor period" of Boston's existence, between 1630 and 1720, its chief article of trade, he says, "was wood in all its forms, especially for fuel and building purposes. The article had to be brought to Boston by boats. These boats were apt to discharge at random. The harbor front and wharves were accordingly 'lumbered up' with all sorts of forest products to the inconvenience of the public, which traveled preferentially by boat and frequented the wharves relatively more than we do." Therefore, in 1663, the police "were instructed to 'clear the ends of all streets and wharves that but upon the water from all lumber and other goods.' This is the first use of the word lumber for sawed wood. The Boston Town Order of April 27, 1663, called the sawed wood the timber (hewn), the masts and other wood brought to town by boats 'lumber' because the cargoes lumbered up the harbor-front. The new meaning was immediately adopted, and lumber, in the sense of sawed wood, is the least restricted as well as the earliest of all Americanisms."

During the year 1894 the importations of bananas into the United States amounted to nearly 18,000,000 bunches. Heavy cyclones throughout the West Indies last autumn destroyed much of this year's crop, and the few cargoes now coming from Jamaica and Cuba bring high prices, some bananas of the first grade selling last week for $1.40 a bunch by the truckload. Nearly one-third of all these imports usually come from Jamaica alone, so that the market has been considerably affected by the shortage. But change in the wholesale prices of bananas does not seem to affect the prices asked for them by retail dealers, who the year through offer three of the best quality for five cents, and fairly good bananas for a cent each. W. & C. Smith, on Liberty Street, now have a supply of the small Lady-finger banana, from Colon, for which buyers acquainted with their delicate flavor pay twenty-five cents a dozen. Unusually fine plantains, each twelve to fourteen inches long, sell at the same place for fifty to sixty cents a dozen. Partially ripened ones are used by Spanish residents for boiling, while the fully ripened fruit, with blackened skin and softened pulp, are considered preferable for frying. Spitzenberg, Northern Spy, Greening, Ben Davis and Baldwin apples are regularly quoted in the wholesale market reports, and form the staple supply. These sorts cost from $4.00 to $7.00 a barrel for good grades, some exceptionally choice and fancy apples commanding even higher prices. A selected lot of Baldwins of uniform size, deep, rich color and high quality recently brought $10.00 a barrel at wholesale. Retail dealers in high grades of fruit offer beautifully colored Winesaps and Northern Spies. Newtown Pippins, from California, cost fifty cents a dozen, and the more acid Pippins from Ulster County, in this state, bring seventy-five cents. California Seckel pears, held over in cold storage, may still be seen in the fancy fruit stores and cost from sixty cents to $1.00 a dozen. The last specimens of the larger D'Alencon are seventy-five cents to $1.25 a dozen, while well-ripened Easter Beurres and P. Barrys bring seventy-five cents to $1.50 a dozen, and Winter Nelis fifty to seventy-five cents. California strawberries, looking unimproved by their long journey, cost seventy-five cents a pint, and the first strawberries from Lakeland, in southern Florida, fresh and bright and in good order, are sold at the same price. In addition to damage to the orange crops in other parts of the world, there is now well-authenticated information that the crop in Sicily has been damaged by hail storms. Some 40,000 boxes of this Mediterranean fruit will be sold in this city this week, but even so large a quantity does not supply the loss of the Florida crop, since at this time last year 60,000 boxes of Florida oranges made an ordinary week's supply here. Some extra-sized Navel oranges, from Florida, held here since before the freeze in that state, sell for $2.00 a dozen. They are too large to be profitable, even at this price, since they measure twelve inches in circumference, and the largest actually weigh two pounds each.

Mr. John J. Thomas, one of the most eminent pomologists of the country, died at his home in Union Springs, New York, on the 22d of February, at the ripe age of eighty-five years. From his father, who was a naturalist and explorer of distinction, he inherited the power of original research which led him to investigations and experiments which have been useful in so many branches of horticulture. Among his works, *The American Fruit Culturist*, which was first published fifty years ago, still remains probably the most useful work of its kind. It has been revised many times to keep pace with the advance of pomology in this country, and the latest labors of Mr. Thomas were given to the preparation of a new edition which is to be published in May. Nine volumes of miscellany, entitled *Rural Affairs*, which are selections from the *Country Gentleman*, of which he was an associate editor, and another interesting work on *Farm Implements and Machinery*, were prepared by him and they rank among the most useful manuals for a country library. Personally, Mr. Thomas was a man of great simplicity and sincerity of character, combining sturdy integrity with a rare refinement, gentleness and unfailing charity.